U.S. Defense Purchases:

An Introduction to IDEPPS

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1. INTRODUCTION

In 1995, the Office of Program Analysis and Evaluation (PA&E) in the U.S. Department of Defense (DoD), together with Interindustry Forecasting at the University of Maryland (INFORUM), developed the Defense Employment and Purchases Projection System (*DEPPS*). *DEPPS* follows previous defense forecasting work in using an economic model to estimate demands for subassemblies, parts, and materials that the Defense Department generates by its purchases. *DEPPS* differs from past efforts, however, in its use of more detailed data on the DoD budget and specialized information on defense production.[1]

The projections for defense purchases of products from specific industries are made using a module of *DEPPS* referred to as *IDEPPS*. Specifically, the objective of *IDEPPS* is to project defense expenditures at the 320-industry level, in constant prices, over the interval defined by the Future Years Defense Program (FYDP). *IDEPPS* projections, which are updated annually, are made available on request to businesses, trade associations, state and local government planning agencies, and other organizations with an interest in defense markets. Projections of defense purchases by state and of DoD demand for skilled labor also are available.[2]

This booklet was developed as a reference tool for *IDEPPS* users. It begins by explaining—using sample projections—what the *IDEPPS* estimates cover and how they should be interpreted. Subsequent sections describe how the projections are generated and discuss sources of uncertainty in them.

Relationship of National Projections to State-Level Projections

IDEPPS' treatment of defense expenditures differs from that of the *Regional Defense Employment and Purchases Projection System (RDEPPS)* in several important ways. The complementary purposes that these two systems serve explain the differences between them. *IDEPPS* is designed to investigate economy-wide effects of the defense budget by simultaneously determining domestic production, imports, and indirect purchases by industry. *RDEPPS* is designed to investigate the distribution, across states, of annual defense expenditures, including military retirement disbursements. Therefore, *RDEPPS* includes only that part of active-duty and retirement pay spent domestically, making an explicit adjustment for pay that is received abroad. Retirement pay is treated on a disbursement basis in *RDEPPS*, as opposed to an accrual basis in *IDEPPS*. The *RDEPPS* measure of pay (and, therefore, of total direct defense expenditures) is reduced by excluding pay received abroad, but is increased by the fact that retirement disbursements currently exceed accruals. The net effect is that *RDEPPS* projections of total direct spending are somewhat larger than the comparable *IDEPPS* projections.

[1] Prior to 1995, the Defense Department used the Defense Economic Impact Modeling System (DEIMS) to generate estimates of annual defense purchases.

[2] In addition to *IDEPPS*, *DEPPS* contains two other modules: the Regional Defense Employment and Purchases Projection System (*RDEPPS*) and an employment (i.e., skilled labor) projection system, referred to as *LDEPPS*.

2. SAMPLE IDEPPS PROJECTIONS

IDEPPS is designed to investigate economy-wide effects of the defense budget by simultaneously calculating—by industry—domestic production, imports, and indirect purchases. In general, *IDEPPS* projections:

- Are in constant (that is, inflation-adjusted) dollars, by calendar year;[3]
- Are based on the President's budget request and so reflect planned expenditures, not actual appropriations or budget authority;
- Reflect DoD expenditures for military programs only. They do not include expenditures for civil programs administered by the Defense Department (such as public works projects of the Army Corps of Engineers) or defense-related expenditures by other federal agencies;
- Reflect planned DoD outlays (i.e., the total amount of funds expended in a given year, as distinct from appropriations, which are typically voted in a single year but are paid out over several years); and

Ignoring any of these points could lead to serious misinterpretations in comparisons of *IDEPPS* projections with budget data or with published industry statistics.

IDEPPS projections are made for defense purchases from 320 industries. (The box on page 5 explains how these industries are categorized.) For each industry, the projections are presented in three tables:

- Table 1 shows projected DoD purchases and purchases by industrial sectors that supply finished goods to DoD.
- Table 2 reports projected purchases generated by outlays from various parts of the DoD budget.
- Table 3 compares projected defense purchases with estimated total domestic production.

To help explain the structure and content of the tables, this section uses sample projections for one industry—electronic components. Any other industry could serve equally well as an example, however, as the format of the projections is the same across industries.

[3] For example, projections generated in the spring of 2000 for the following year are presented in constant 2001 dollars.

STANDARD INDUSTRIAL CLASSIFICATION SYSTEM

The industries for which *IDEPPS* projections are made are defined using the 1987 Standard Industrial Classification (SIC) system. This system was developed to provide federal statistical agencies with a uniform set of categories for gathering and distributing industrial data. The SIC is updated every five years, with major revisions occurring every ten to fifteen years. The last significant revision was in 1987, with minor changes in 1992. Over the period 1997-2002, the SIC will be replaced by the North American Industry Classification System (NAICS). *IDEPPS* industry definitions will change to conform to the new system as NAICS is phased in.

Both the SIC and the NAICS are organized hierarchically, starting with broad divisions of the economy and moving to particular products or narrowly defined groups of products. Thus, under the SIC system, semiconductors are classified as follows:

Division D: Manufacturing (Major Groups 20 to 39)
Major Group 36: Electrical and Electronic Machinery, Equipment, and Supplies
Group 367: Electronic Components and Accessories
Industry 3674: Semiconductors and Related Devices

All of the industries at the fourth level of disaggregation are assigned four-digit identification codes and thus are referred to as "four-digit SIC industries." Most of the 320 *IDEPPS* industries are at the three- or four-digit level.

Table 1—Projected Defense Purchases. The projections in Table 1 distinguish between "direct" and "indirect" defense purchases. Direct defense purchases are purchases made by the Department of Defense. In the case of electronic components, purchases of replacement parts by DoD depot maintenance facilities constitute an example of direct defense purchases. Indirect defense purchases, on the other hand, are purchases—generated throughout the economy—of items used to produce goods bought by DoD. For example, electronic components bought by a DoD supplier for use in manufacturing a radar system ordered by the Navy would be counted as an indirect defense purchase. Another example of an indirect defense purchase from this industry would be the components used in test equipment bought by a producer of military aircraft.

Electronic components is a good example of an industry from which a large share of defense purchases are indirect. In 2001, for example, DoD is projected to spend about $1,883 million on the products of this industry (direct purchases). During that same year, DoD purchases of aircraft, ships, tanks, and many other items will generate a projected $1,676 million in indirect purchases of electronic components—almost the same amount that will be expended on direct purchases.

Table 1. Projected Defense Purchases of Electronic Components, 2000-2005
(In millions of 2001 dollars)

	2000	*2001*	*2002*	*2003*	*2004*	*2005*
Summary of Defense Purchases						
Direct	1,837	1,883	1,884	1,940	1,944	1,949
Indirect	1,653	1,676	1,705	1,760	1,795	1,809
Total	3,489	3,559	3,589	3,700	3,740	3,758
Indirect Defense Purchases by Purchasing Sector						
Missiles	54	57	60	64	62	62
Ammunition	32	33	35	36	36	36
Tanks and Tank Components	0	0	0	0	0	0
Other Ordnance	1	1	1	1	1	1
Communications Equipment	638	652	665	689	706	707
Other Electronic Equipment	269	273	272	276	277	276
Motor Vehicles	3	3	4	4	4	4
Aircraft and Parts	86	90	94	102	108	110
Aircraft Engines and Parts	7	7	7	7	7	7
Shipbuilding	4	4	4	5	5	5
All Other	558	555	563	577	588	599
Total	**1,653**	**1,676**	**1,705**	**1,760**	**1,795**	**1,809**

The projected purchases by the 11 aggregate industrial sectors that appear in the middle section of Table 1 are all indirect. (A listing of the industries within these sectors can be found in Appendix A.) The sector generating the largest volume of indirect purchases of electronic components is Communications Equipment, with estimated sales of about $652 million in 2001.

Table 2—Sources of Defense Purchases. Table 2 provides a slightly different perspective on defense purchases by depicting the source (using categories found in the defense budget) of annual demands for products of specific industries. The headings in the table correspond to aggregate accounts in the DoD budget: military personnel; operations and maintenance (O&M); procurement; research, development, test, and evaluation (RDT&E); military construction; and family housing. Together, these categories encompass all of the military functions financed through the DoD budget.

Since the projections reflect *total* defense purchases—both direct and indirect—they do not indicate whether the buyer is DoD or a private firm. Rather, they show whether defense purchases derive from a relatively small number of programs or, as is the case with electronic components, are generated by a wide range of programs funded under several budget accounts.

Table 2. Sources of Projected Defense Purchases of Electronic Components, 2000-2005 (In millions of 2001 dollars)

	2000	*2001*	*2002*	*2003*	*2004*	*2005*	*2000-05*
Military Personnel	6	6	6	6	6	7	4.14
O&M + Revolving Funds	1,354	1,367	1,344	1,360	1,367	1,368	0.21
Procurement	1,489	1,547	1,614	1,727	1,774	1,801	3.80
Aircraft	278	291	309	332	345	359	5.08
Missiles	381	379	409	418	419	411	1.54
Weapons and Tracked Vehicles	3	2	2	3	3	3	1.61
Ship Construction and Conversions	21	17	17	19	17	13	-9.17
Ammunition	1	1	1	1	1	1	1.92
Other Procurement	805	856	875	953	988	1,014	4.60
RDT&E	579	581	572	559	545	530	-1.76
Military Construction	46	44	39	34	33	36	-4.67
Family Housing	15	14	14	14	14	14	-0.45
Total	**3,489**	**3,559**	**3,589**	**3,700**	**3,740**	**3,758**	**1.48**

Table 3—Defense and Nondefense Purchases. Table 3 is designed to facilitate comparisons of trends in defense and nondefense purchases. The first block of items in the table shows projections, made by INFORUM, of the value of electronic components produced domestically, the amounts imported and exported, and a net calculation of components remaining in the country (and thus assumed to be for domestic use). The projected share of products for domestic use supplied by imports also is shown.

The middle part of the table presents projections (for comparison to the estimates of total domestic production) of defense purchases from domestic suppliers. *Domestic* defense purchases are defined as *total* defense purchases less *imports* used for defense production. In the example given, total projected defense purchases of electronic components amount to about $3,559 million in 2001 and projected imports to roughly $341 million. Defense purchases from domestic producers are, therefore, projected to total about $3,218 million in 2001.

Table 3. Projected Domestic Production, Defense Purchases, and Imports for Defense Production of Electronic Components, 2000-2005 (In millions of 2001 dollars, except as noted)

	2000	*2001*	*2002*	*2003*	*2004*	*2005*	*2000-05*
Domestic Production	39,384	42,039	44,201	46,673	49,289	52,160	5.62
Plus Imports	6,158	6,467	6,670	6,930	7,212	7,554	4.09
Less Exports	15,354	16,776	18,111	19,518	21,011	22,550	7.69
= Domestic Use	30,188	31,730	32,760	34,085	35,490	37,163	4.16
Import Share of Domestic Use (percent)	20	20	20	20	20	20	-0.07
Defense Purchases	3,489	3,559	3,589	3,700	3,740	3,758	1.48
Less Imports	337	341	347	358	365	368	1.75
Domestic Defense Purchases	3,152	3,218	3,242	3,342	3,375	3,390	1.46
Domestic Defense Purchases as a Share of Domestic Production (percent)	8.0	7.7	7.3	7.2	6.8	6.5	-4.16

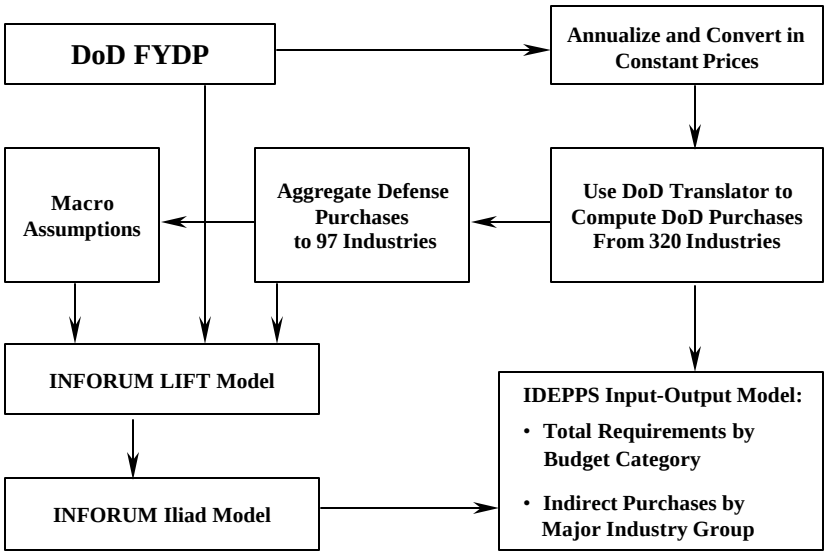
The last entry in the table is an estimate of the share of total domestic production accounted for by defense purchases. Again using electronic components as an example, defense purchases are projected to account for about 7.7 percent of the industry's output in 2001, falling to 6.5 percent by 2005.

3. HOW THE PROJECTIONS ARE MADE: AN OVERVIEW

Projections of direct defense purchases are derived from DoD planning documents. Direct purchases, however, constitute only part of the total. DoD direct purchases (or nonpay outlays) generate additional purchases of subassemblies, parts, components, and materials. Though not recorded in the DoD budget or measured in any statistical survey, these indirect defense purchases are clearly also important to industry planners and DoD analysts.

Figure 1 summarizes how the *IDEPPS* projections are computed. Each of the steps corresponding to the boxes in the figure is discussed in the sections below.[4] In broad terms, the *IDEPPS* projections start with DoD budget and FYDP data. After some transformations of these data, a "translator" is applied to restate outlays from budget accounts as DoD purchases from each of 320 industries. An input/output (I/O) table is then used to compute the total defense purchases implied by these direct purchases.

Figure 1. General Flow of IDEPPS Computations



Basis of the Projections—The DoD Budget and Future Years Defense Program. The *IDEPPS* projections of direct defense purchases are based on the annual DoD budget (usually completed in December) and on the FYDP. There are six major accounts into which the budget and FYDP

[4] The "Annualize and Convert to Constant Prices" box is not discussed. The annualization and conversion of the DoD FYDP is performed by the Office of Program Analysis and Evaluation through a series of algorithms.

data are grouped.[5] The procurement account is further divided into six subaccounts.[6] Together, these accounts reflect planned expenditures for all of the military functions of DoD. They do not include the comparatively small amounts budgeted for civil functions of the department (such as public works projects of the Army Corps of Engineers) or for defense programs funded by other federal agencies (principally the Department of Energy).

The budget figures from which the *IDEPPS* projections are derived are those published each January in the *Budget of the United States Government*. It is important to note that the projections are based on outlays, rather than on total obligational authority (TOA) or budget authority (BA). TOA and BA are measures of the dollar amount of new commitments into which DoD can enter during a given fiscal year; outlays are the dollars actually spent during a fiscal year. In the procurement accounts (and, to a lesser extent, in the other accounts as well), only a fraction of the amount of a new commitment is actually spent in the year in which the commitment is made; the bulk of funds are paid out over several years. Because it is actual expenditures that generate defense purchases, the budget and FYDP data are restated as outlays for each of the budget accounts on the basis of historical payout rates.

DoD Purchases—The Translator. The next step in *IDEPPS* starts from the constant price outlay data for each of the budget accounts. Using a "translator," the outlay data are converted to purchases from each of 320 industries. (Additional information about the nature of the translator can be found in Section 4.) The translator embodies information on many defense programs. Any particular program may generate purchases from a dozen to several dozen industries.[7]

Table 4 illustrates how the translator for one of the budget accounts listed earlier—aircraft procurement—would allocate outlays, in any given year, among various SIC industries. Note that, in this example, about 77 percent of the outlays go to the three aircraft-related industries. The translators for all 11 accounts allow the computation, from the budget data described above, of direct defense purchases from each of the 320 industries in the system. These projections are initially computed in constant dollars for the upcoming budget year.

Total Defense Demands. The *IDEPPS* projections of total defense purchases are made using a 320-sector input/output model developed by INFORUM. DoD prepares the estimates of direct defense purchases. Like virtually all large I/O models of the U.S. economy, INFORUM's is based on the Benchmark I/O table prepared by the Department of Commerce. The unique features of the INFORUM model include the manner in which the input-output coefficients are updated to account for such factors as technological change and changes in the product mix within the various industrial sectors. The box on page 11 describes what an I/O table is. (A listing of the commodities in the I/O table can be found in Appendix B.)

[5] The six accounts are: military personnel; operations and maintenance; procurement; research, development, test and evaluation; military construction; and family housing.
[6] The six procurement subaccounts are: aircraft; missiles; weapons and tracked vehicles; ship construction and conversions; ammunition; and other.
[7] The translator is updated annually. Documentation of the translator is available upon request.

Table 4. Estimated Distribution Among Industries of Outlays from the Navy Aircraft Procurement Account, 2001 (In millions of 2001 dollars)

	2001	*Share (%)*
Ammunition, except small arms (Ind 22)	1,492	8.3
Communication equipment (Ind 220)	279	1.5
Aircraft (Ind 235)	7,333	40.6
Aircraft and missile engines (Ind 236)	706	3.9
Aircraft and missile parts (Ind 237)	5,804	32.1
Ship building and repairing (Ind 238)	439	2.4
Search and navigation equipment (Ind 246)	634	3.5
Research laboratories and management consulting (Ind 290)	288	1.6
Engineering and architectural services (Ind 295)	760	4.2
Other professional services, including accounting (Ind 296)	342	1.9
Total	**18,078**	**100.0**

The I/O table is used 21 times in *IDEPPS*, for the direct DoD purchases associated with:

- The DoD budget as a whole;
- Each of 10 aggregate DoD budget accounts; and
- Each of 11 aggregate industrial sectors.

The first application of the table yields projections of total, direct, and indirect defense purchases (Table 1). (Indirect defense purchases are calculated by subtracting direct defense purchases from total purchases.) The remaining applications disaggregate defense purchases by budget category and by military service (Table 2).

Total Domestic Production—Defense Imports. The *IDEPPS* reports include projections, made by INFORUM, of total domestic production (Table 3). The projections are derived from two types of data: (1) the DoD budget data used in *IDEPPS* and (2) data on the Administration's planned expenditures for nondefense programs. In addition to these data, the *IDEPPS* projections rely on various assumptions made by INFORUM in its published baseline forecasts. DoD does not endorse these forecasts, or those of any other forecasting firm, and offers them only as benchmarks for comparison with defense purchases.

The projections reported for *domestic* defense purchases (also shown in Table 3) are calculated by subtracting estimates of imports used to produce defense purchases from total defense purchases. The import share of total apparent consumption for each year in the forecast period is computed from INFORUM projections of imports and consumption. The estimates of imports for defense should be used with caution, as the share of defense purchases made abroad could prove to be quite different from the import share of total apparent consumption.

INPUT-OUTPUT TABLE

An input/output (I/O) table provides a way of computing the dollar volume of various inputs required to produce the output of each commodity. In the table used in *DEPPS*, both inputs and outputs are defined in terms that correspond closely to the products of four-digit SIC industries (see the box on page 5).

The I/O table consists of 320 columns, one for each of the commodities for which the *IDEPPS* projections are prepared. The numbers in the columns indicate the shares of purchases made of commodities from each industry (for example, aircraft). The shares represent the fractions of total purchases (to produce a given commodity output) that are spent on the various commodity inputs.

The *DEPPS* translator converts data on DoD outlays to final demands for the products of the 320 *IDEPPS* industries. The I/O table is then used to estimate the total amount of the products of each industry group that must be produced to meet the estimated final demands. Conceptually, the computations are a matter of tracing through the large number of production pathways implicit in the table (for example, aircraft to landing gear to nonferrous forgings; aircraft to aircraft engines to nonferrous forgings; aircraft to aircraft engines to machine tools to nonferrous forgings; and so on).

INPUT-OUTPUT STRUCTURE

Industry	Aerospace	Business Services	Communications Equipment	Computers	Electronic Components	Motor Vehicles	Petroleum Refining	Plastic Products	Search and Navigation Equipment	Ships and Boats
Aerospace	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Computers	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Crude petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.00
Electric utilities	0.01	0.01	0.01	0.01	0.02	0.00	0.01	0.02	0.02	0.01
Electronic components	0.02	0.01	0.19	0.07	0.10	0.01	0.00	0.00	0.10	0.00
Metal products	0.02	0.00	0.02	0.01	0.05	0.09	0.00	0.01	0.05	0.07
Motor vehicle parts	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00
Other chemicals	0.00	0.01	0.00	0.00	0.02	0.02	0.02	0.04	0.02	0.01
Petroleum refining	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
Plastic products	0.01	0.01	0.03	0.01	0.05	0.02	0.00	0.05	0.05	0.00
Plastics and synthetics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.01
Other Industries	0.22	0.26	0.16	0.16	0.17	0.31	0.16	0.16	0.17	0.31
Total Intermediate Dema	0.49	0.31	0.46	0.55	0.45	0.81	0.83	0.57	0.45	0.46

- Numbers are input-output coefficients.
- Coefficients represent the share of one industry's output (column) attributable to another industry's input (row).
  - Example: The 0.19 entry in the shaded block means that 19 percent of the output of the communication equipment industry is attributable to inputs from the electronic components industry
- Other factors (i.e., compensation, taxes, and profits) are added to the Total Intermediate Demand figure to obtain a total of 1.0 in each column.

4. HOW THE PROJECTIONS ARE MADE: THE TRANSLATOR

The preceding section described what the translator *does.* In summary, the translator breaks down outlays from budget categories into DoD purchases from various industries. But what *is* the translator? Is it fundamentally a classification procedure? Or is it an economic model? The answer is "both." The translator works as an approximate crosswalk between budget accounts and industries, but it also provides information on the inputs used in manufacturing major weapon systems.

The Translator as a Classification Procedure. A *DEPPS* "translator" is made up of estimates of the shares of outlays from individual budget accounts that go to purchase the products of various industries. Applied to planned outlays from those accounts, the translator yields dollar estimates of DoD purchases from various SIC industries.

A few dozen to a few thousand subaccounts underlie each of the budget accounts. In many cases, all of the outlays from a given subaccount go to a single SIC industry. For example, 100 percent of the purchases of replacement jet engines are made from SIC 3724, Aircraft Engines and Parts. Subaccounts that fund substantial purchases from two or more industries must be disaggregated further, but reasonable estimates of the breakout—if not exact figures—can be obtained from program descriptions, historical patterns of expenditures, or the judgment of program managers.

Sorting through and disaggregating the various subaccounts could be done by hand, but the process would be so time-consuming that projections of defense demand could not be updated annually to reflect changes in the defense budget. Consequently, to keep the projections current, the translator provides a faster and more efficient means of classifying defense purchases by industrial sector.

The translator automates the classification process for the procurement accounts. In these cases, *DEPPS* uses budgeted amounts in the subaccounts for each year of the forecast horizon, and each subaccount includes a "subtranslator" composed of estimates of the shares of outlays from that subaccount going to purchase products of various industries. The translators for the aggregate accounts (Navy aircraft procurement) are built up from subtranslators for the subaccounts (e.g., F/A-18 aircraft). The aggregate translators vary from one year of the forecast period to the next as the mix of items funded by the procurement account changes.

The translators for the O&M and military construction (MILCON) accounts are also adjusted each year. These translators are computed using detailed budget and FYDP data that distinguish among several thousand categories of purchases (e.g., costs of operating repair depots, architectural and engineering services, various types of spare parts). Outlays from individual subaccounts, sometimes after further disaggregation, are classified by SIC industry (e.g., truck parts to SIC 3714, Motor Vehicle Parts and Accessories). The dollar figures are then used to compute shares of total outlays from the aggregate accounts contained in the budget and FYDP.

The translators for the RDT&E accounts, like those for the O&M and MILCON accounts, reflect planned purchases over the FYDP years.

***The Translator as a Model*.** The translator works as a classification technique to the extent that it takes planned outlays from individual budget accounts and sorts them among the various SIC industries from which purchases will be made. The translator serves as a model to the extent that it breaks out the cost of complete products—such F/A-18 aircraft—into purchases from various industries.

The translator is designed to "unbundle" the costs (as they appear in the budget) of major weapon systems. For example, the costs of aircraft are broken into purchases from the following SIC industries (see Table 4):

- Ammunition, except small arms
- Communication equipment
- Aircraft
- Aircraft and missile engines
- Aircraft and missile parts
- Ship building and repairing
- Search and navigation equipment
- Research laboratories and management consulting
- Engineering and architectural services
- Other professional services, including accounting

Purchases from these industries are used in place of a single purchase from the aircraft industry when the I/O table is applied to compute total defense purchases.

This practice was adopted in response to unreasonable results, obtained in early trials of *DEPPS'* predecessor model *DEIMS*, for some categories of purchases arising from the procurement of aircraft and missiles. For example, the projections for aircraft engine purchases were only about half the amounts implied by budget data. The results understated likely purchases because the I/O table used to make the projections did not accurately describe the pattern of inputs to major weapon systems.

The problems with the I/O table were, in turn, traced to the way government-furnished equipment (GFE) was accounted for in computing coefficients in the I/O table. Returning to the example of aircraft engines, the relevant I/O coefficient should be—but because of accounting conventions is not—the share of cost accounted for by engines. Engines purchased by aircraft manufacturers are counted as part of the costs of aircraft production. For both military and large civilian aircraft, however, an aircraft manufacturer typically does not buy the engines; they are purchased (from the engine producer) by the buyer of the aircraft and shipped to the aircraft manufacturer for installation. In the data used to construct the I/O table, these purchases of engines are not treated as inputs to aircraft production. Consequently, the computed I/O coefficient is substantially less than the actual share of aircraft cost accounted for by engines.

This problem was dealt with by developing input coefficients that more accurately reflect the input requirements of major weapon systems. In effect, *DEPPS* uses an I/O table modified to reflect the unique input requirements of military weaponry.

Unbundling the costs of major weapon systems into purchases from various industries is the first step in developing the modified input coefficients. In general terms, the unbundled cost shares are substituted for the corresponding I/O coefficients, and the other coefficients are adjusted appropriately.[8]

One other problem must be noted: The translators for the procurement accounts separate out shares of purchases of selected products (e.g., electronics) whether the costs represent GFE or contractor-furnished equipment (CFE). This is done to permit more accurate estimates of the total requirements for production of major weapon systems. But this procedure misclassifies some purchases of CFE as direct defense purchases. A final step in *IDEPPS* (done after the computations with the I/O table have been completed) shifts CFE direct purchases to indirect purchases, using information derived from the input-output table. This correction, however, is only approximate, and in a few cases there is some ambiguity in the classification of defense purchases between "direct" and "indirect." (This problem arises in military electronics, for example, and in research and development expenditures.)

5. SOURCES OF UNCERTAINTY IN THE PROJECTIONS

This section describes sources of uncertainty in *IDEPPS* projections of direct defense purchases.[9] The projections of direct defense purchases rely on three types of information:

- Estimates of *total obligational authority (TOA)* for each of the budget accounts in each of the years represented in the FYDP;
- Historical *payout rates for each budget account*, which are used to convert total obligational authority to outlays; and
- The *translator*, which traces the flow of purchases from each outlay account to the industrial sectors in which the purchases are made.

Though there is some potential for error in each of these steps, the major sources of uncertainty in the projections are the underlying budget data and the translator.

A useful way to put uncertainty in planned DoD budgets into perspective is to ask: Is there more uncertainty in planned defense spending over a five- or six-year horizon than there is in five-year forecasts of such variables as gross domestic product (GDP) and the index of industrial production? The answer is very probably "no."

Examining the number of budget accounts that fund those purchases (Table 2) provides some indication of the variability of defense purchases from particular industries. To the extent that planned purchases are broadly derived, variations in the purchases are likely to track nonpay

[8] A technical description of this process is available upon request.

[9] The projections of total defense purchases and of total domestic production of each industry in the system, which involve different considerations, are not discussed.

defense outlays as a whole. Conversely, if the purchases are funded by only a few accounts, attention is directed to uncertainty in the particular programs generating the purchases.

The *DEPPS* translator has two helpful properties. First, it does not magnify errors in the projections arising from differences between planned and actual spending. On the contrary, errors in the projections of direct defense purchases are proportional to the difference between actual spending in the programs giving rise to those purchases and planned spending at the time the projections were made. Second, a change in spending on a given program does not affect projected purchases for unrelated items.

The distribution of DoD purchases among industries changes over time in response to:

- Shifts in the composition of defense outlays (an increase in the share of the budget going for procurement, for example); and

- Changes, within individual budget accounts, in the share of outlays going to various industries.

The first source of change—shifts in the composition of defense outlays—represents the primary factor behind variations in the distribution of purchases. The second—shifts in the share of outlays going to various industries—changes relatively slowly over time and is due primarily to technological change, changes in product features, and price changes. Hence, to the extent that planned changes in budget composition are borne out, the translator is a good predictor of the ultimate distribution of purchases among industries.

Beyond these general points, uncertainties in the projections of direct defense purchases can be assessed only on an industry-by-industry basis.

APPENDIX A . Purchasing Sector to SIC Industry Crosswalk

Missiles	21. Guided missiles and space vehicles (3761)
Ammunition	22. Ammunition, except small arms (3483) 25. Small arms ammunition (3482)
Tanks and Tank Components	23. Tanks and tank components (3795)
Other Ordnance	24. Small arms (3484) 26. Other ordnance and accessories (3489)
Communications Equipment	220. Radio and TV broadcasting and communication equipment (3663, 3669) 246. Search and navigation equipment (3812)
Other Electronic Equipment	221. Electron tubes (3671) 222. Semiconductors and related devices (3674) 223. Electronic components, n.e.c. (3672, 3675, 3676, 3677, 3678, 3679)
Motor Vehicles	231. Truck and bus bodies (3713) 232. Truck trailers (3715) 233. Motor vehicles and passenger car bodies (3711) 234. Motor vehicle parts and accessories (3714)
Aircraft and Parts	235. Aircraft (3721) 237. Aircraft and missile parts (3728, 3769)
Aircraft Engines and Engine Parts	236. Aircraft and missile engines and engine parts (3724, 3764)
All Other	All other 4-digit SIC industries

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
1	Dairy Farm Products	241	1	Agriculture, Forestry, and Fisheries
2	Poultry and Eggs	250 -254		
3	Meat Animals and Other Livestock	210 270		
4	Cotton	131		
5	Grains	111 112 115 118 pt 119 pt 139		
6	Tobacco	132		
7	Fruit, Vegetables, and Other Crops	pt 119 133 134 pt 139 170 173 179 161 116		
8	Forestry Products	800 -850 970		
9	Fishery Products	910		
10	Agriculture, Forestry, and Fishery Services	pt 180 254 700 780 850 920		
11	Iron Ores	1010 1060	2	Metal Mining
12	Copper Ore	1020		
13	Other Nonferrous Ores	1030 1040 1050 1080 1090		
14	Coal Mining	1200	3	Coal Mining
15	Natural Gas Extraction	1312	4	Natural Gas
16	Crude Oil Extraction	1311 1320 1380	5	Crude Oil
17	Stone and Clay Quarrying and Mining	1410 1420 1440 1450 1480 1490	6	Nonmetallic Mining
18	Chemical and Fertilizer Minerals Mining	1470		
19	New Construction	1600	7	Construction
20	Maintenance Construction	1500	8	Maintenance Construction
21	Guided Missiles and Space Vehicles	3761	51	Aerospace
22	Ammunition, Except Small Arms	3483	34	Metal Products
23	Tanks and Tank Components	3795	53	Other Transportation Equipment
24	Small Arms	3484	34	Metal Products
25	Small Arms Ammunition	3482		
26	Other Ordnance and Accessories	3489		
27	Meat Packing Plants, Sausage and Other Prepared Meats	2011 2013	9	Meat Products
28	Poultry Slaughtering and Processing	2015		
29	Dairy Products, Except Fluid Milk	2021 2022 2023 2024	10	Dairy Products
30	Fluid Milk	2026		
31	Fish and Seafoods	2091 2092	14	Other Food Products
32	Preserved Fruits and Vegetables, Frozen Bakery Products	2032 2033 2034 2035 2037 2038	11	Canned and Frozen Foods
33	Flour, Cereals, and Other Grain Mill Products	2041 2043 2045	12	Bakery and Grain Mill Products
34	Prepared Animal Feeds	2047 2048		
35	Rice Milling	2044		
36	Wet Corn Milling	2046		

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
37	Bakery Products	2051 2052 2053	12	Bakery and Grain Mill Products
38	Sugar	2061 2062 2063	14	Other Food Products
39	Confectionery, Chocolate Products, and Roasted Nuts	2064 2066 2067 2068		
40	Beer, Malt Beverages, and Malt	2082 2083	13	Alcoholic Beverages
41	Wines, Brandy, and Brandy Spirits	2084		
42	Distilled and Blended Liquors	2085		
43	Soft Drinks and Flavorings	2086 2087	14	Other Food Products
44	Vegetable Oil Mills	2074, 2075, 2076		
45	Animal and Marine Fats and Oils	2077		
46	Shortening, Table Oils, and Edible Fats	2079		
47	Roasted Coffee	2095		
48	Miscellaneous Food Preparations	2096 2097 2098 2099		
49	Cigarettes	2110	15	Tobacco Products
50	Cigars	2120		
51	Chewing and Smoking Tobacco and Snuff	2130		
52	Tobacco Stemming and Redrying	2140		
53	Broadwoven Fabric Mills	2210 2220 2230 2261 2262	16	Textiles and Knitting
54	Narrow Fabric Mills	2240		
55	Yarn and Thread Mills, Textile Finishers	2269 2281 2282 2284		
56	Carpets and Rugs	2270		
57	Miscellaneous Textile Goods	2290		
58	Knitting Mills	2251 2252 2253 2254 2257 2258 2259		
59	Apparel	2300-2390	17	Apparel and Household Textiles
60	Household Textile Products	2391 2392		
61	Miscellaneous Fabricated Textile Products	2393 2394 2395 2396 2397 2399 39996		
62	Logging Camps and Contractors	2411	29	Lumber
63	Sawmills and Planing Mills	2421 2426 2429		
64	Millwork and Wood Kitchen Cabinets	2431 2434		
65	Veneer and Plywood	2435 2436		
66	Structural Wood Members, n.e.c.	2439		
67	Prefabricated Wood Buildings and Components	2452		
68	Wood Preserving	2491		
69	Wood Pallets and Skids	2448		
70	Wood Containers	2441 2449		
71	Particleboard and Wood Products, n.e.c.	2493 2499		
72	Household Furniture	2511 2512 2514 2515 2517 2519	30	Furniture
73	Office Furniture	2521 2522		
74	Public Building and Related Furniture	2531		
75	Partitions and Fixtures	2541 2542		

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
76	Furniture and Fixtures, n.e.c.	2591 2599	30	Furniture
77	Pulp Mills	2610	18	Paper
78	Paper Mills, Including Building Paper	2620		
79	Paperboard Mills	2630		
80	Bags, Except Textile Bags	2673 2674		
81	Paperboard Containers and Boxes	2650		
82	Paper Coating and Glazing, Die-Cut Paper	2671 2672 2675		
83	Envelopes and Stationery	2677 2678		
84	Converted Paper Products, n.e.c.	2679		
85	Sanitary Paper Products	2676		
86	Newspaper Publishing and Printing	2710	19	Printing and Publishing
87	Periodical Publishing and Printing	2720		
88	Book Publishing and Printing	2731 2732		
89	Miscellaneous Publishing	2740		
90	Commercial Printing	2752 2754 2759		
91	Greeting Card Publishing	2770		
92	Printing Trade Services	2791 2796		
93	Blankbooks and Bookbinding	2782 2789		
94	Manifold Business Forms	2761		
95	Industrial Inorganic Chemicals	2812 2813 2816 2819, excl. 28195	23	Other Chemicals
96	Industrial Organic Chemicals	2865 2869		
97	Gum and Wood Chemicals	2861		
98	Agricultural Chemicals	2873 2874 2875 2879	20	Agricultural Fertilizers
99	Adhesives and Sealants	2891	23	Other Chemicals
100	Explosives	2892		
101	Chemical Preparations, n.e.c.	2893 2895 2899		
102	Plastics Materials and Resins	2821	21	Plastics and Synthetics
103	Synthetic Rubber	2822		
104	Cellulosic Man-Made Fibers	2823		
105	Synthetic Organic Fibers, Except Cellulosic	2824		
106	Drugs	2830	22	Drugs
107	Soaps and Cleaners	2841 2842 2843	23	Other Chemicals
108	Perfumes, Cosmetics, and Other Toilet Preparations	2844		
109	Paints, Varnishes, and Related Products	2850		
110	Petroleum Refining, Except Fuel Oil	2911 2917 2992 2999	24	Petroleum Refining
111	Fuel Oil	2915	25	Fuel Oil
112	Asphalt Paving and Coatings	2951 2952	24	Petroleum Refining
113	Tires and Inner Tubes	3010	26	Rubber Products

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
114	Fabricated Rubber Products, n.e.c.	3060	26	Rubber Products
115	Rubber and Plastics Footwear	3020		
116	Rubber and Plastics Hose and Belting	3052		
117	Gaskets, Packing, and Sealing Devices	3053		
118	Miscellaneous Plastic Products	3080	27	Plastic Products
119	Leather Tanning and Finishing	3110	28	Shoes and Leather
120	Boot and Shoe Cut Stock and Findings	3130		
121	Footwear, Except Rubber	3142 3143 3144 3149		
122	Other Leather Goods	3150 3160 3171 3172 3199		
123	Glass and Glass Products, n.e.c.	3210 3229 3230	31	Stone, Clay, and Glass
124	Glass Containers	3221		
125	Cement, Hydraulic	3240		
126	Structural Clay Products	3251 3253 3255 3259		
127	Pottery and Related Products	3261 3262 3263 3264 3269		
128	Concrete and Concrete Products	3271 3272 3273		
129	Lime	3274		
130	Gypsum Products	3275		
131	Cut Stone and Stone Products	3280		
132	Nonmetallic Mineral Products, n.e.c.	3291 3292 3295 3296 3297 3299		
133	Steel Mills, Blast Furnaces, and Rolling and Finishing Mills	3312 3313 3315 3316 3317	32	Primary Ferrous Metals
134	Iron and Steel Foundries	3320		
135	Iron and Steel Forgings	3462		
136	Miscellaneous Primary Metal Products	3398 3399		
137	Primary Smelting and Refining of Copper	3331, pt. 3341	33	Primary Nonferrous Metals
138	Primary Smelting and Refining of Aluminum	3334 28195 pt. 3341		
139	Lead, Zinc, and Other Primary Nonferrous Metals	3339		
140	Copper Rolling and Drawing Products	3351		
141	Aluminum Rolling and Drawing Products	3353 3354 3355		
142	Other Nonferrous Rolling and Drawing Products, and Nonferrous Wire	3356 3357		
143	Aluminum Foundries and Castings	3363 3365		
144	Copper Foundries	3366		
145	Nonferrous Castings and Forgings	3364 3369 3463		
146	Metal Cans	3411	34	Metal Products
147	Metal Shipping Barrels, Drums, Kegs, and Pails	3412		
148	Metal Sanitary Ware and Plumbing Fixtures	3431 3432		
149	Heating Equipment, Except Electrical and Warm Air Furnaces	3433		
150	Fabricated Structural Metal Products	3441 3442		
151	Fabricated Plate Work (Boiler Shops)	3443		
152	Sheet Metal and Other Metal Work	3444 3446 3448 3449		

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
153	Screw Machine Products, Bolts, and Nuts	3450	34	Metal Products
154	Automotive Stampings	3465		
155	Crowns and Closures	3466		
156	Metal Stampings, n.e.c.	3469		
157	Cutlery and Hand Tools	3421 3423 3425		
158	Hardware, n.e.c.	3429		
159	Metal Plating, Polishing, and Coating	3471 3479		
160	Metal Foil and Leaf	3497		
161	Miscellaneous Fabricated Wire Products	3495 3496		
162	Steel Springs, Except Wire	3493		
163	Pipes, Valves, and Pipe Fittings	3491 3492 3494 3498		
164	Fabricated Metal Products, n.e.c.	3499		
165	Steam, Gas, and Hydraulic Turbines	3511	35	Engines and Turbines
166	Internal Combustion Engines, n.e.c.	3519		
167	Farm Machinery and Equipment	3523	36	Agricultural, Construction, Mining and Moving Equipment
168	Garden Tractors and Lawn and Garden Equipment	3524		
169	Construction Machinery and Equipment	3531		
170	Mining Machinery and Equipment, Except Oil and Gas Machinery	3532		
171	Oil and Gas Field Machinery	3533		
172	Elevators and Moving Stairways	3534		
173	Conveyers, Hoists, and Cranes	3535 3536		
174	Industrial Trucks, Tractors, Trailers, and Stackers	3537		
175	Machine Tools, Metal Cutting Types	3541	37	Metalworking Machinery
176	Machine Tools, Metal Forming Types	3542		
177	Special Dies, Jigs, Molds, and Cutting Tools	3544 3545		
178	Power-Driven Hand Tools	3546		
179	Rolling Mill Machinery and Equipment	3547		
180	Metalworking Machinery, n.e.c.	3549		
181	Food Products Machinery	3556	38	Special Industry Machinery
182	Textile Machinery	3552		
183	Woodworking Machinery	3553		
184	Paper Industries Machinery	3554		
185	Printing Trades Machinery and Equipment	3555		
186	Special Industrial Machinery, n.e.c.	3559		
187	Pumps and Compressors	3561 3563	39	General and Miscellaneous Industrial Machinery
188	Ball and Roller Bearings	3562		
189	Blowers and Exhaust and Ventilation Fans	3564		
190	Industrial Patterns	3543	37	Metalworking Machinery
191	Packaging Machinery and General Industrial Machinery, n.e.c.	3565 3569	39	General and Miscellaneous Industrial Machinery
192	Mechanical Power Transmission Equipment	3566 3568		

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
193	Industrial Process Furnaces and Ovens	3567	39	General and Miscellaneous Industrial Machinery
194	Carburetors, Pistons, Piston Rings, and Valves	3592		
195	Fluid Power Equipment	3593 3594		
196	Scales and Balances	3596		
197	Industrial and Commercial Machinery, n.e.c.	3599		
198	Electronic Computers	3571	40	Computers
199	Computer Peripheral Equipment	3572 3575 3577		
200	Calculators and Accounting Machinery	3578	41	Other Office Equipment
201	Office Machines and Typewriters	3579		
202	Automatic Merchandising Equipment	3581	42	Service Industry Machinery
203	Commercial Laundry, Dry Cleaning, and Pressing Machines	3582		
204	Air Conditioning, Heating, and Refrigeration Equipment	3585		
205	Measuring and Dispensing Pumps	3586		
206	Service Industry Machinery, n.e.c.	3589		
207	Instruments to Measure Electricity	3825	57	Other Instruments
208	Transformers	3612	43	Electric Industrial Appliances and Distribution Equipment
209	Switchgear and Switchboard Apparatus	3613		
210	Motors and Generators	3621		
211	Relays and Industrial Controls	3625		
212	Welding and Soldering Equipment	3548	37	Metalworking Machinery
213	Electrical Industrial Apparatus	3624 3629	43	Electric Industrial Appliances and Distribution Equipment
214	Major Household Appliances	3631 3632 3633	44	Household Appliances
215	Other Household Appliances	3634 3635 3639		
216	Electric Lamps, Light Fixtures, and Wiring	3641 3643 3644 3645 3646 3647 3648	45	Electrical Equipment
217	Household Audio and Video Equipment	3651	46	TVs, VCRs, Radios, and Phonographs
218	Prerecorded Records and Tapes	3652		
219	Telephones, Switchboards, Modems, Faxes, etc.	3661	47	Communications Equipment
220	Radio and TV Broadcasting and Communication Equipment	3663 3669		
221	Electron Tubes	3671	48	Electronic Components
222	Semiconductors and Related Devices	3674		
223	Electronic Components, n.e.c.	3672 3675 3676 3677 3678 3679		
224	Storage Batteries	3691	45	Electrical Equipment
225	Primary Batteries, Dry and Wet	3692		
226	X-ray and Irradiation Apparatus	3844	55	Medical Instruments and Supplies
227	Electromedical and Electrotherapeutic Apparatus	3845		
228	Engine Electrical Equipment	3694	45	Electrical Equipment
229	Magnetic and Optical Recording Media	3695		
230	Electrical Machinery, Equipment and Supplies, n.e.c.	3699		

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
231	Truck and Bus Bodies	3713	49	Motor Vehicles
232	Truck Trailers	3715		
233	Motor Vehicles and Passenger Car Bodies	3711		
234	Motor Vehicle Parts and Accessories	3714	50	Motor Vehicle Parts
235	Aircraft	3721	51	Aerospace
236	Aircraft and Missile Engines, Propulsion Units and Parts	3724 3764		
237	Aircraft and Missile Parts and Auxiliary Equipment, n.e.c.	3728 3769		
238	Ship Building and Repairing	3731	52	Ships and Boats
239	Boat Building and Repairing	3732		
240	Railroad Equipment	3740	53	Other Transportation Equipment
241	Motorcycles, Bicyles, and Parts	3750		
242	Travel Trailers and Campers	3792		
243	Mobile Homes	2451	29	Lumber
244	Motor Homes	3716	49	Motor Vehicles
245	Transportation Equipment, n.e.c.	3799	53	Other Transportation Equipment
246	Search and Navigation Equipment	3812	54	Search and Navigation Equipment
247	Laboratory Apparatus and Furniture	3821	57	Other Instruments
248	Measuring Devices and Environmental Controls	3822 3823 3824 3829		
249	Surgical and Medical Instruments	3841	55	Medical Instruments and Supplies
250	Surgical Appliances and Supplies	3842		
251	Dental Equipment and Supplies	3843		
252	Watches, Clocks, Clockwork-Operated Devices and Parts	3870	57	Other Instruments
253	Laboratory and Optical Instruments	3826 3827		
254	Ophthalmic Goods	3850	56	Ophthalmic Goods
255	Photographic Equipment and Supplies	3860	57	Other Instruments
256	Jewelry, Precious Metal, Silverware, and Plated Wares	3911 3914 3915	58	Miscellaneous Manufacturing
257	Musical Instruments	3930		
258	Games, Toys, and Play Vehicles	3942 3944		
259	Sport and Athletic Goods, n.e.c.	3949		
260	Pens, Pencils, and Other Office and Artists' Materials	3951 3952 3953 3955		
261	Costume Jewelry and Notions	3961 3965		
262	Manufacturing, n.e.c.	3991 3993 3995 3996 3999		
263	Railroads	4000 4740 pt. 4789	59	Railroads
264	Local and Suburban Passenger Transportation	4100	60	Trucking and Highway Passenger Transit
265	Trucking and Warehousing	4200 pt. 4789		

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
266	Water Transportation	4400	61	Water Transportation
267	Airlines	4500	62	Air Transportation
268	Pipelines	4600	63	Pipeline
269	Transportation Services	4700	64	Transportation Services
270	Telephone and Telegraph	4800 -4830	65	Communications Services
271	Radio and TV Broadcasting	4830		
272	Electric Utilities	4910 pt 4930	66	Electric Utilities
273	Natural Gas	4920 pt 4930	67	Gas Utilities
274	Water, Sewer, Steam, and Irrigation Services	4940 4950 4960 4970 pt 4930	68	Water and Sanitation
275	Wholesale Trade	5000 5100	69	Wholesale Trade
276	Retail Trade	5200 5300 5400 5500 5600 5700 5900	70	Retail Trade
277	Eating and Drinking Places	5800 pt 7000	71	Restaurants and Bars
278	Banking	60	72	Finance and Insurance
279	Credit Agencies Other Than Banks	61 67 -6732		
280	Security and Commodity Brokers, Dealers, Exchanges, and Services	62		
281	Insurance Carriers	63		
282	Insurance Agents, Brokers, and Services	64		
283	Owner-Occupied Dwellings	No SIC	74	Owner-Occupied Housing
284	Real Estate	6500 6600 1531	73	Real Estate
285	Royalties	I-O sector, but no SIC		
286	Hotels, Rooming Houses, Camps, and Other Lodging Places	7000	75	Hotels
287	Personal and Repair Services	7200 7620 7630 7640	76	Personal and Repair Services
288	Personnel Supply Services	736	80	Research Labs and Other Business Services
289	Computer and Data Processing Services	737	78	Computer and Data Processing Services
290	Research Laboratories and Management Consulting	8731 8732 8734 8740	80	Research Labs and Other Business Services
291	Equipment Rental and Leasing Services	7350		
292	Advertising	7310	79	Advertising
293	Other Business Services	7320 7330 7340 7380 7390 7690	80	Research Labs and Other Business Services
294	Legal Services	8110	77	Professional Services
295	Engineering and Architectural Services	8710		
296	Other Professional Services, Including Accounting	8720 8900		
297	Auto Rental and Leasing	751	81	Automobile Services
298	Auto Repair and Services	75 other		

APPENDIX B. *IDEPPS* to SIC Industry to *RDEPPS* Crosswalk

National		SIC Classification	State Level	
ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title
299	Motion Pictures	78, exc. 7840	82	Movies and Amusements
300	Video Tape Rental	7840		
301	Amusements and Recreation Services	7910 7920 7930 7941 7948 7990		
302	Private Hospitals	806	83	Private Hospitals
303	Physicians, Excluding Dentists	801 803	84	Physicians
304	Dentists and Miscellaneous Medical Services	0740 8020 8041 8043 8048 8070 8080 8090	85	Other Medical Services
305	Nursing Homes	805	86	Nursing Homes
306	Education and Libraries	82	87	Education and Nonprofit Organizations
307	Social Services	83		
308	Museums, Nonprofits, Research, and Private Education	84 8650 8690 8733 6732		
309	Membership Organizations	86		
310	United States Postal Service	4311	88	Federal, State, and Local Government Enterprises
311	Federal Government Enterprises	No SIC		
312	State and Local Government Enterprises	No SIC		
317	Government Industry Compensation	No SIC	93	Government Industry Compensation